

Appl. No. : 09/881,052
Filed : June 13, 2001

REMARKS

Applicants would like to thank Examiners Warden and Levkovich for the helpful suggestions provided during the personal interview of December 5, 2007. As discussed during this interview, Applicants have amended independent claims 95, 103, 125 and 126 to clarify that the movement of the rotor is synchronized with the dispensing of the liquid such that the dispenser dispenses the liquid into the array while the rotor is rotating. Withdrawn independent claims 110 and 118 have also been amended as indicated above in order to facilitate rejoinder of these claims, as well as claims dependent thereon, when generic linking claims 125 and 126 are allowed. Support for the amendment to each of these claims can be found throughout the claims and specification as originally filed. For example, support can be found at page 11, line 26 to page 12, line 17 and elsewhere throughout the specification as originally filed. In addition to the foregoing, dependent claims 98, 99, 106, 107, 113, 114, 121 and 122 have been amended to correct typographical or grammatical errors. Support for these amendments can be found throughout the specification as filed. Accordingly, no new matter has been added to this application.

Currently, claims 95-109, 125 and 126 are presented for examination. Claims 110-124 are withdrawn without prejudice or disclaimer. Upon allowance of linking claims 125 and 126, Applicants respectfully request that claims 110-124 be rejoined.

Rejection of claims 95-109, 125 and 126 under 35 U.S.C. § 112, second paragraph

The Examiner rejects claims 95-109, 125 and 126 under 35 U.S.C. § 112, second paragraph as allegedly being indefinite. In particular, the Examiner asserts that the term "movement" in claims 95, 103, 125 and 126 lacks antecedent basis. With respect to claim 97, the Examiner asserts that it is unclear which structural features of the apparatus limit it to being configured specifically for synthesis of oligomers. With respect to claim 98, the Examiner asserts that the phrase "dispensing valves" lacks antecedent basis. Additionally, the Examiner asserts that, in claim 99, the structural inter-relationship between the "radial column" and the "array of reaction vessels" is unclear. The Examiner also asserts that claims 104 and 105 contain passive limitations that do not set forth method steps. Finally, the Examiner alleges that claim 107 does not include further limiting method steps.

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Applicants respectfully disagree that claims 95-109, 125 and 126 are indefinite. Specifically, Applicants address each of the Examiner's rejections in turn below.

Applicants submit that the term "movement" as used in claims 95, 103, 125 and 126 is definite; however, in order to expedite the allowance of the instant claims, Applicants have clarified that "movement" refers to the movement of the dispensing nozzles. As such, claim 95, in relevant part, states that "said dispensing nozzles are configured such that movement of the dispensing nozzles is minimized or eliminated." This represents the first occurrence of the phrase "movement of the dispensing nozzles" in claim 95, and thus, this phrase has appropriate antecedent basis. Claims 103, 125 and 126 have been similarly amended. Accordingly, Applicants submit that claims 95, 103, 125 and 126 are not indefinite.

With respect to claim 97, the Examiner asserts that "it is unclear what structural features of the apparatus limit it to being configured specifically for synthesis of oligomers." Applicants respectfully submit that a skilled artisan reading the specification would recognize the structural features for configuring the claimed apparatus for oligomer synthesis. For example, the specification at page 8, lines 1-30 describes synthesis of oligomers from component building blocks. From this description, a skilled artisan would recognize that at least some of the reagent sources, which are fluidly coupled to the liquid dispenser (as recited in claim 96), would include oligomer building blocks. Furthermore, the specification at page 20, lines 32-39 explains that, in some, but not all embodiments, an apparatus configured for oligomer synthesis would also include a solid support. As such, in view of the specification, a skilled artisan would readily be able to discern structural features which would make the apparatus of claim 97 configured for oligomer synthesis.

In addition to the foregoing, the Examiner asserts that the phrase "said dispensing valves" in claim 98 lacks antecedent basis. Applicants have amended claim 98 to replace the phrase "said dispensing valves" with the phrase "said dispensing valve." Applicants submit that this amendment overcomes the rejection of claim 98.

With respect to claim 99, the Examiner asserts that the structural relationship between "radial column" and "said array of reaction vessels" is not clear. Although the Examiner refers to claim 99, Applicants believe that the Examiner meant to refer to claim 101, as the phrases "radial column" and "said array of reaction vessels" do not appear in claim 99 but do appear in claim 101. Applicants, however, submit that claim 101 is clear as written. In particular, a skilled

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artisan would recognize that the phrase "radial column" refers to a column of reaction vessels in an array of reaction vessels placed on the rotor of the claimed apparatus. That is, the column of reaction vessels is positioned in an orientation that is radial (placed along a radius) with respect to the rotor on which they are placed. The specification at page 13, lines 11-29, as well as at Figures 1 and 2, clearly exemplifies such embodiments. Accordingly, Applicants respectfully submit that a skilled artisan would readily be able to discern the structural relationship between the phrases "radial column" and "said array of reaction vessels."

With respect to claims 104 and 105, the Examiner asserts that "performing chemical synthesis" (claim 104) and "synthesis of oligomers" (claim 105) are both passive limitations. Applicants do not agree. Although neither of these limitations describe the individual steps of a particular chemical synthesis or a synthesis of a particular oligomer, they do further limit claims 104 and 105, respectively. It is clear that independent claim 103 relates to a method of dispensing liquids. The liquids that are dispensed according to the process of claim 103 may or may not contain synthetic reagents or otherwise participate in a chemical synthesis. Claim 104 further recites the method step of performing a chemical synthesis in at least one of the reaction vessels. Claim 104 is generic with respect to the specific type of chemical synthesis and the specific method steps used in the synthesis, but it does include an additional method step. Claim 105 further limits the type of chemical synthesis to the synthesis of oligomers. Applicants submit that claim clarity does not require that they set forth the details of performing the myriad chemical synthesis reactions that can be performed using the liquid dispensing processes claimed in the instant application. As such, claims 104 and 105 are clear as written.

Finally, the Examiner asserts that claim 107 does not include any further limiting method steps. Applicants respectfully submit that there is no requirement that further limitations of a method claim be in the form of further limiting method steps. In particular, an applicant may choose to limit a method claim by further limiting one or more of the structural elements recited in the claimed process. Claim 107 relates to a method of dispensing a liquid using a dispensing valve. In this claim, Applicants have simply chosen to further characterize the dispensing valve that is used in the claimed method. Such claiming practice is well within the requirements set forth in 35 U.S.C. § 112, second paragraph.

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In view of the foregoing remarks and amendments, Applicants respectfully request that the Examiner withdraw the rejection of claims 95-109, 125 and 126 under 35 U.S.C. § 112, second paragraph.

Rejection of claims 95-109, 125 and 126 under 35 U.S.C. § 102(b)

The Examiner rejects claims 95-109, 125 and 126 under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 3,901,656 (Durkos et al.). In particular, the Examiner asserts that Durkos et al. disclose a chemical analyzer having an array of stationary dispensing heads that transfer reagents into test tubes disposed on a rotor along a circular path. The Examiner further alleges that Durkos et al. disclose the elements recited in each of the dependent claims.

Applicants do not agree that Durkos et al. disclose each of the elements of any of the rejected claims. For example, independent claim 95, in relevant part, states that the liquid dispenser is positioned above said rotor and arranged for dispensing a liquid from each dispensing nozzle into a reaction vessel while said array of reaction vessels moves along said circular path (emphasis added). Furthermore, claim 95 recites "a controller for synchronizing movement of said rotor with the dispensing of the liquid such that said liquid dispenser dispenses the liquid into said array while said rotor is rotating (emphasis added). It is clear from the above language that the claimed apparatus dispenses liquid into reaction vessel while the rotor is rotating. Durkos et al. do not teach this element. Durkos et al. disclose a sampling head disposed between two rotors that each contain sample vessels. According to Durkos et al., however, the sampling head only transfers liquid to the vessels when the rotor is not moving. In other words, the transfer of liquid occurs only when the rotor is stopped (see, for example, column 3, lines 23-33). Accordingly, Durkos et al. do not disclose all of the elements of any of claims 95-109, 125 or 126.

In view of the foregoing remarks, Applicants respectfully request that the Examiner withdraw the rejection of claims 95-109, 125 and 126 under 35 U.S.C. § 102(b).

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, Applicants are not conceding in this application that previously pending claims are not patentable. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicants reserve the right to pursue at a later date any

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previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that the Applicants have made any disclaimers or disavowals of any subject matter supported by the present application.

CONCLUSION

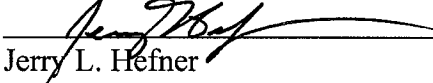
Applicants believe that all outstanding issues in this case have been resolved and that the present claims are in condition for allowance. Nevertheless, if any undeveloped issues remain or if any issues require clarification, the Examiner is invited to contact the undersigned at the telephone number provided below in order to expedite the resolution of such issues.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: January 3, 2008

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